Universiti Teknologi MARA

License Plate Recognition Using Kohonen Neural Network Algorithm

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DECLARATION

I certify that thesis and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

License plate recognition is one of important techniques that can be used for the identification vehicles. It is useful in many applications such as entrance admission, security, parking control, traffic enforcement, and toll gate automation. This paper focuses on the development of the character recognition for license plate number. In the development of this system, several stages have to be executed. The preprocessing is implemented by using MATLAB tool to preprocess the images to become as an input to the network in binary form. For the recognition of the license plate number, the Kohonen self-organizing map is used to recognize the license plate number with using Euclidean distance to determine best-matching unit and employed two dimensional Kohonen layer map. It is easily trained and has attractive properties such as topological ordering and good generalization. Experiments are performed to determine the network parameter beside to measure the performance of Kohonen neural network. The test result of the prototype was shown with 78.57% accuracy.

Keyword: License plate recognition, Kohonen self-organizing map, Euclidean distance

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